

MICRO-CHIMNEY AND THERMOSIPHON DIE-LEVEL COOLING

ABSTRACT

A method and arrangement for dissipating heat from a localized area within a semiconductor die is presented. A semiconductor die is constructed and arranged to have at least one conduit portion therein. At least a portion of the conduit portion is proximate to the localized area. The conduit portion is at least partially filled with a heat-dissipating material. The conduit portion absorbs heat from the localized area and dissipates at least a portion of the heat away from the localized area. As such, thermal stress on the die is reduced, and total heat from the die is more readily dissipated.